

Appln No. 10/802,666
Amdt date April 27, 2007
Reply to Office action of November 1, 2006

Amendments to the Specification:

Please replace the paragraph beginning on page 2, line 1 through page 2, line 9 with the following rewritten paragraph:

Various methods for post-attachment corrections have been developed for precise alignment of the optical components. Some of these methods are directed to mechanically adjusting the relative position or shape of the parts after welding. In particular, mechanical shape adjustment (e.g., bending) of parts have been considered for providing the ~~requirement~~ required alignment. However, achieving precise sub-micron alignment of optical components through mechanical adjustment of parts is not straightforward.

Please replace the paragraph beginning on page 3, line 7 through page 3, line 22 with the following rewritten paragraph:

One proposed solution to accomplish post weld shift bend alignment is to command motion stages to move a certain distance (e.g., change in position) from a starting point. If a co-ordinate based bending ~~systems~~ system that induces bending by positional references is used then the method of bending is not deterministic or repeatable. When plastic deformation occurs, the linear relationship between stage position and the relative bend position of the parts ceases to exist. Each subsequent attempt to bend the part, specifically the magnitude of bending will correspond to a constantly changing co-ordinate position, that is part a function of the assembly bending, the stage set bending that is not reported back by encoder counts and bending in the tooling. As the variation in the actual force vector that is communicated to the part varies, there may be great inconsistencies in the effects of existing bending alignment methods.

Please replace the paragraph beginning on page 17, line 18 through page 18, line 2 with the following rewritten paragraph:

Further, the stress tensor typically changes whenever the part experiences plastic deformation. This means that even if a user figures out what direction the parts move when the force is beginning to be applied, the relationship between bend position change direction and applied force direction may change as the user increases the force beyond the point where plastic deformation occurs. Therefore, the final bend alignment typically cannot be made in one step. Hence, in practical applications, the bend alignment procedure is performed iteratively,

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commanding the system to make a series of small incremental improvements. The method of bend alignment can be tailored to each optical attachment, in that the precise nature of the part and optical sensitivity in each axis will naturally imply a preferred method. One stated method involves bending the assembly directly along the angle of peak signal, however an ~~alternatively~~ alternative is ~~too-to~~ to achieve bend alignment through bending in the orthogonal axis directions only. During this process the signal may actually be bent to a temporary low point in order to finally peak through bending in another axis.